

CLAIMS:

1. A method for setting a clearance between a sliding member and a guide member, comprising the steps of:
 - determining the clearance;
 - changing the clearance by utilizing a working means; and
 - stopping the working means when the determined clearance reaches a predetermined target clearance.
2. A method as defined in claim 1, wherein the step of determining the clearance comprises reciprocally moving the sliding member in a direction intersecting the clearance, measuring acceleration of the sliding member in time series, determining a special time period from changes of the measured acceleration and using the time period as a representative of the clearance.
3. A method as defined in claim 2, wherein the special time period corresponds to a time period between a time when the sliding member contacts the guide member and a time when the sliding member again contacts the guide member.
4. A method as defined in claim 2, wherein the sliding member is received in a guide groove of the guide member, and wherein the special time period corresponds to a time period between a time when a center line of the sliding member aligns with a centerline of the guide groove of the guide member and a time when the center line of the sliding member again aligns with the centerline of the groove.
5. A method as defined in claim 2, wherein the special time period comprises a desired time period obtained from a graph of the measured acceleration against time
6. A method as defined in claim 5, wherein the graph includes a fixed portion and a variable portion, and wherein the time period is defined as a time difference between a first time in the variable portion and a second time in the fixed portion.
7. A method as defined in claim 6, wherein the first time corresponds to a time when the variable portion is peaked, and wherein the second time corresponds to a time when the

fixed waveform portion is first reversed after the first time.

8. A method as defined in claim 1, wherein the step of changing the clearance comprises reducing the clearance.

9. A method as defined in claim 8, wherein the step of reducing the clearance is performed by pressing the guide member.

10. An apparatus for setting a clearance between a sliding member and a guide member, comprising:

a clearance determination means for determining the clearance;

a working means for changing the clearance; and

a controlling means for stopping the working means when the determined clearance reaches a predetermined target clearance.

11. An apparatus for setting a clearance between a sliding pawl and a guide body that constitute a locking means of a seat reclining mechanism, comprising:

a) a holder for supporting an assembly of the sliding pawl and the guide member;

b) a vibration generator for periodically vibrating the sliding pawl;

c) an attachment immovably supporting the sliding pawl and connected to the vibration generating means;

d) an accelerometer attached to the attachment for measuring acceleration of the sliding pawl;

e) a punch for pressing and deforming the assembly in order to reduce the clearance;

f) a drive unit for moving the punch;

g) a processor for receiving signals corresponding to the measured acceleration and determining the clearance based on changes of acceleration; and

h) a controlling circuit for controlling the drive unit based on the determined clearance.

12. An apparatus as defined in claim 11, wherein the clearance is represented by a special time period obtained from a graph of the measured acceleration against time.

13. An apparatus as defined in claim 12, wherein the special time period corresponds to a time period between a time when the sliding pawl contacts the guide member and a time when the sliding pawl again contacts the guide member.